

Docket No.: M0025.0340/P340

(PATENT)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Yao-Chun Shen et al.

Application No.: 10/550,620

Confirmation No.: 4660

Filed: September 26, 2005

Art Unit: N/A

TERAHERTZ RADIATION SOURCES For:

Examiner: Not Yet Assigned

AND METHODS

## **INFORMATION DISCLOSURE STATEMENT (IDS)**

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

Applicant has not submitted copies of each cited U.S. patent and U.S. patent application as required by 37 CFR 1.98(a)(2)(i), amended October 2004, as the U.S.

Application No.: 10/550,620 Docket No.: M0025.0340/P340

Patent and Trademark Office has waived this requirement for all U.S. patent applications. Applicant submits herewith copies of foreign and non-patents in accordance with 37 CFR 1.98(a)(2).

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1073, under Order No. M0025.0340/P340.

Dated: June 30, 2006

Respectfully submitted,

Stephen A. Soffen

Registration No.: 31,063

DICKSTEIN SHAPIRO MORIN &

OSHINSKY LLP

2101 L Street NW

Washington, DC 20037-1526

(202) 785-9700

Attorney for Applicant



PTO/SB/08a/b (07-05)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

		- ·		700, TIO POISONS and	roquiloc		Complete if	s it contains a valid OMB control numb
Substitute for form 1449A/B/PTO						Application Number 10/550,620-Conf. #46		
INI	FOR	MATIO	N DISC	LOSURE	=	Filing Date	<del> </del>	er 26, 2005
STATEMENT BY APPLICANT					Г	First Named Inventor	Yao-Chun Shen	
						Art Unit	N/A	
(Use as many sheets as necessary)						Examiner Name	Not Yet Assigned	
Sheet		1	of	2		Attorney Docket Number	M0025.03	340/P340
				U.S. PA	TEN	T DOCUMENTS		
Examiner	Cite	Docume	nt Number	Publication Date	ardon Date Name of Patentee or Relevant Pa DD-YYYY Applicant of Cited Document Fig.		or	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
Initials*	No.1	Number-Kind (	code <sup>2</sup> ( <i>if known</i> )	MM-DD-YYYY				
		2001/0038	074 A1	11-2001				
		4,972,069	, i	11-1990	Gris	chkowsky		

FOREIGN PATENT DOCUMENTS							
Examiner	Cite	Foreign Patent Document	Publication	Name of Patentee or	Pages, Columns, Lines,		
Initials*	No.1	Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)	Date MM-DD-YYYY	Applicant of Cited Document	Where Relevant Passages or Relevant Figures Appear		
		EP 0 828 143 A2	03-11-1998	Lucent Technologies Inc.			
		WO 01/38929 A1	05-31-2001	Rudd, et al.			

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at <a href="https://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. Applicant is to place a check mark here if English language Translation is attached.

Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
		Nuss et al., "Terahertz Time-Domain Spectroscopy", Millimeter and Submimillimeter Wave Spectroscopy of Solids, ed. G.Gruner, Berlin Springer, pp. 7-50, (1998)	
	-	Beard et al., "Terahertz Spectroscopy", J. Phys. Chem. B., Vol. 106, pp. 7146-7159, (2002)	
		Zhang, "Terahertz wave Imaging: Horizons And Hurdles", Phys. Med. Biol., Vol. 47, pp. 3667-3677, (2002)	
		Zhang et al., "Optoelectronic Measurement Of Semiconductor Surfaces And Interfaces With Femtosecond Optics", <u>J. Appl. Phys.</u> , Vol. 71, No. 1, pp. 326-338, (1992).	
		Dekorsy et al., "THz Electromagnetic Emission By Coherent Infrared-Active Phonons", Phys. Rev. B, Vol. 53, No. 7, pp. 4005-4014, (1996)	
		Kono, et al., "Temperature Dependence Of Terahertz Radiation for <i>n</i> -type InSb and <i>n</i> -type InAs Surfaces", <u>Appl. Phys. B.</u> , Vol. 71, pp. 901-904, (2000)	
		Davies et al., "The Development Of Terahertz Sources And Their Applications", Phys. Med. Biol., Vol. 47, pp. 3679-3680, (2002)	
		Ma et al., "Determination of Ratios Between Nonlinear-Optical Coefficients By Using Subpicosecond Optical Retification", <u>J. Opt. Soc. Am. B</u> , Vol. 10, No. 7, pp. 1175-1179, (1993)	
		Saeta et al., "Short Terahertz Pulses From Semiconductor Surfaces: The Importance Of Bulk Difference-Frequency Mixing", Appl. Phys. Lett., Vol. 63, No. 25, pp. 3483-3484, (1993)	
		Joffre et al., "Femtosecond Diffracting Fourier-Transform Infrared Interferometer", Optics Letters, Vol. 21, No. 13, pp. 964-966, (1996)	
		Wu et al., "Free-Space Electro-Optics Sampling Of Mid-Infrared Pulses", Appl. Phys. Lett., Vol. 71, No. 10, pp. 1285-1286, (1997)	
		Darrow et al., "Saturation Properties of Large-Aperture Photoconducting Antennas", <u>IEEE</u> <u>Jour. Quantum Elec.</u> , Vol. 28, No. 6, pp. 1607-1616, (1992)	
		Leitenstorfer, et al., "Detectors and Sources For Ultrabroadband Electro-Optic Sampling: Experiment And Theory", Appl. Phys. Lett., Vol. 74, No. 11, pp. 1516-1518, (1999)	

Examiner	Date	
Signature	Considered	

PTO/SB/08a/b (07-05)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/B/PTO				Complete if Known		
		-		Application Number 10/550,620-Conf. #4660		
INFORMATION DISCLOSURE				Filing Date September 26, 2005		
STATEMENT BY APPLICANT			APPLICANT	First Named Inventor	Yao-Chun Shen	
				Art Unit N/A		
(Use as many sheets as necessary)			necess ary)	Examiner Name	Not Yet Assigned	
Sheet	2	of	2	Attorney Docket Number	M0025.0340/P340	
	3, (1984) Grischkows Terahertz T pp. 1122-1 Holzman et App. Phys.	sky, "C ime-E 135, (2 : al., "f Lett.,	Optoelectronic Characte Domain Spectroscpy", <u>I</u> 2000) Recombination-Indeper Vol. 76, No. 2, pp. 134	erization of Transmiss EEE J. Sel. Topics Quadration Indent Photogeneration 136, (2000)	", Appl. Phys. Lett., Vol. 45, No. ion Lines and Waveguides by uantum Electron., Vol. 6, No. 6, n Of Ultrashort Electrical Pulses",	
	Holzman et al., "Ultrafast Photoconductive Self-Switching of Subpicosecond Electrical Pulses" IEEE J. Quantum Electron., Vol. 36, No. 2, pp. 130-136, (2000)					
		Krokel et al., "Subpicosecond Electrical Pulse Generation Using Photoconductive Switches With Long Carrier Lifetimes", Appl. Phys. Lett., Vol. 54, No. 11, pp.1046-1047, (1989)  Lieitenstorfer et al., "Femtosecond High-Field Transport in Compound Semiconductors", Physical Review B, Vol. 61, No. 24, pp. 16642-16648, (2001)				
	Lieitenstorf					
	Huber et al., "Generation and Field-Resolved Detection Of Femtosecond Electromagnetic Pulses Tunable Up To 41 THz", App. Phys. Lett., Vol. 76, No. 22, pp. 3191-3193, (2000)					

Examiner	Date
Signature	Considered

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>,</sup> Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached.